

FACT SHEET FOR NPDES PERMIT WA-000109-1
FACILITY NAME GEORGIA PACIFIC, BELLINGHAM
June 21, 2002 Amendment

SUMMARY

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see [Appendix A--Public Involvement](#) of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in [Appendix D--Response to Comments](#).

<u>GENERAL INFORMATION</u>	
Applicant	Georgia-Pacific West, Inc.
Facility Name and Address	300 West Laurel Street Bellingham, Washington 98227-1236
Type of Facility:	Paper (Tissue) Mill
SIC Code	2621
Discharge Location	Waterbody name: Bellingham Bay Latitude: 48°, 44', 05" N Longitude: 122°, 30', 55" W.
Water Body ID Number	

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY:

THE GEORGIA-PACIFIC CORPORATION OPERATED A CALCIUM BASED SULFITE MILL AT THIS LOCATION UNTIL THE PULP MILL AND ASSOCIATED CHEMICAL PLANT WAS PERMANENTLY CLOSED ON MARCH 30, 2001. THE OPERATIONS AT THE ADJOINING TISSUE PAPER MILL, CONVERTING FACILITIES, AND PRIMARY AND SECONDARY WASTEWATER TREATMENT SYSTEMS WERE CONTINUED. AN NPDES PERMIT WAS ISSUED TO GEORGIA PACIFIC FOR THE CALCIUM BASED PULP MILL ON APRIL 1, 2001, TWO DAYS AFTER THE MILL ANNOUNCED ITS CLOSURE. THE PERMITTEE SUBMITTED AN APPLICATION TO MODIFY THAT PERMIT ON NOVEMBER 2, 2001. THIS FACT SHEET IS FOR THE MODIFICATION OF THAT PERMIT TO ACCOUNT FOR THE WASTEWATER DISCHARGES FROM THE TISSUE PAPER AND CONVERTING OPERATION.

INDUSTRIAL PROCESS

The current operation is a tissue manufacturing and converting operation, employing approximately 330 people, consisting of five paper machines which were brought into service on the following dates: # 2 Paper Machine – 1942, # 3 Paper Machine – 1949, - # 4 Paper Machine – 1951, - # 5 Paper Machine – 1962, # 6 Paper Machine – 1964. The Permittee is currently producing 256 air dry tons per day of paper from purchased pulp. The purchased pulp fiber is manufactured into bath tissue and paper towel parent rolls that are then converted on-site into finished paper products.

The waste water treatment process consists of a primary clarifier followed by a twenty-nine acre aerated stabilization basin. The wastewater has an average flow ten million gallons per day (MGD) consisting of the following:

- 4.5 MGD – Tissue mill – Receiving primary and secondary treatment
- <0.1 MGD – Filter Plant Backwash – Receiving secondary treatment after neutralization
- 0.2 MGD (Average) – Storm water – Receiving secondary treatment after neutralization
- 4 MGD – Cogeneration Plant – Receiving secondary treatment after neutralization
- <0.1 MGD (Average) – Storm water Tissue Warehouse – Receiving secondary treatment
- <0.1 MGD – Woodwaste Landfill leachate – Receiving secondary treatment
- 1.0 MGD – Cooling Water – Receiving secondary treatment after neutralization

The mill receives cooling water from Encogen, a cogeneration facility adjacent to the Permittee regulated through a state waste discharge permit issued by the Department. The Permittee also trucks in woodwaste leachate from the airport landfill, discharged directly to the aerated stabilization basin by agreement with the Department Solid Waste Program. All storm water

from process areas, product storage areas and parking lots are diverted into the wastewater treatment system.

DISCHARGE OUTFALL

The treated mill wastewater is discharged continuously via a 60” diameter, 8000 foot long outfall pipe with a 500 port diffuser (Outfall 009). The diffuser section is 2000 feet long, and is located in Bellingham Bay at an average depth of 50 feet.

PERMIT STATUS

The previous permit for this facility was issued on April 1, 2001. Georgia-Pacific announced the closure of the sulfite pulp mill and associated chemical operations two days before the permit became effective. The previous permit placed effluent limitations on:

OUTFALL 009 LIMITS

Parameter	Effluent Limitations		Monitoring
	Monthly Average	Daily Maximum	Requirements Frequency
Biochemical Oxygen Demand (5-day), lbs/day	20,587	39,417	Daily
Total Suspended Solids, lbs/day	32,377	60,320	Daily
Mercury, µg/L			Weekly
pH	5.0 to 9.0		Continuous
AOX,* µg/L		< 20	Weekly
Chemical Oxygen Demand			Weekly
	Quarterly Maximum	Annual Average	
TCDD, mg/day	0.27	0.14	Quarterly

*This limit was to go into effect 12 months after permit issuance, and only for the specific month or months where the 12 month rolling average production of specialty grade pulps that were produced, sold, or used for the production of end products such as plastic molding compounds, saturating and laminating products, and photographic papers was below 25% of the total sulfite production for the same 12 month period. This limit is not in effect during those months when the 12 month average returns to or continues to be above the 25% of the total production value.

BLEACH PLANT LIMITS

CAS Number	Pollutant	Daily Maximum	Monitoring Frequency
1198556	Tetrachlorocatechol	< 5.0 µg/L	Monthly
2539175	Tetrachloroguaiacol	< 5.0 µg/L	Monthly
2539266	Trichlorosyringol	< 2.5 µg/L	Monthly
2668248	4,5,6-trichloroguaiacol	< 2.5 µg/L	Monthly
32139723	3,4,6-trichlorocatechol	< 5.0 µg/L	Monthly
56961207	3,4,5-trichlorocatechol	< 5.0 µg/L	Monthly
57057837	3,4,5-trichloroguaiacol	< 2.5 µg/L	Monthly
58902	2,3,4,6-tetrachlorophenol	< 2.5 µg/L	Monthly
60712449	3,4,6-trichloroguaiacol	< 2.5 µg/L	Monthly
87865	Pentachlorophenol	< 5.0 µg/L	Monthly
88062	2,4,6-trichlorophenol	< 2.5 µg/L	Monthly
95954	2,4,5-trichlorophenol	< 2.5 µg/L	Monthly
1746016	TCDD	< 10 pg/L	Monthly
51207319	TCDF	< 10 pg/L	Monthly

An application for permit renewal was submitted to the Department on November 2, 2001 and accepted by the Department on December 11, 2001.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received a compliance inspection with sampling on December 11, 2001.

During the period between the closure of the sulfite pulp mill and the writing of this permit, the Georgia-Pacific West has been in compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department.

During the history of the previous permit, the Permittee has demonstrated its compliance based on Discharge Monitoring Reports (DMR) submitted to the Department and inspections conducted by the Department with the following exceptions from the Fact Sheet for the Permit issued on April 1, 2001):

- a. In August of 1993 the mill caused exceedance of permit limitation for mercury discharge. A discharge of 1.78 lbs of mercury occurred. This exceeded the monthly average and the daily maximum limitation. A penalty of \$5000 was issued.
- b. In May of 1994 the mill was unable to produce the daily recording for monitoring mercury discharge. The mill is required to maintain original discharge records. 30 days elapsed until Ecology was notified. A penalty of \$15,500 was issued.
- c. In January 1995 the mill failed to continuously monitor its mercury discharge for three days. A penalty of \$6,000 was issued.
- d. In May 1997 the mill failed to continuously monitor its mercury discharge for 6.5 hours. A penalty of \$4,500 was issued.

None of the above compliance issues were associated with the tissue paper mill and converting facilities.

WASTEWATER CHARACTERIZATION

The following data is based on the data collected on the final effluent after the shut down of the sulfite pulp mill and the writing of this permit. The proposed wastewater discharge is characterized for the following regulated parameters:

Table 1: Wastewater Characterization

Parameter	Concentration	Mass
BOD (average)	9.8 ppm – Max 30 ppm	713 lbs/day – Max 2426 lbs/day
TSS (average)	9.8 ppm – Max 46 ppm	140 lbs/day – Max 3849 lbs/day
pH (Max/Min)	7.3/6.5	
Flow (average)	10 MGD – Max 11 MGD	
Mercury µg/L	<0.2	
TCDD ng/L	<0.01	

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

On April 15, 1998 EPA published revised effluent guidelines for the pulp and paper industry in the Federal Register (98 FR 18503). These guidelines, known as the "Cluster Rule," replace the guidelines that were used to calculate the technology-based limitations in the mill's 1991 permit. The State of Washington policy is that these Federal effluent regulations, that are less than 5 years old, represent and satisfy Washington State AKART requirements. These guidelines can be found in 40 CFR Part 430.

The proposed effluent limitations based on maximum 12 month average production thru 2001 which was 256 air dry tons per day of purchased pulp. The pertinent regulatory basis to establish numeric effluent limitations for this mill process are found in 40 CFR 430.120 Subpart L- (Tissue, Filter, Non-Woven, and Paperboard from Purchased Pulp Subcategory), of the Code of Federal Regulations. The reference above establishes 11.4 pounds of BOD5 per 1,000 pounds of product for the maximum for any day and 6.25 pounds of BOD5 per 1,000 pounds of product for the average of daily values for 30 consecutive days. It also establishes 10.25 pounds of TSS per 1,000 pounds of product for the maximum for any day and 5 pounds of TSS per 1,000 pounds of product for the average of daily values for 30 consecutive days. The pH is required to be within a range of 5.0 to 9.0 at all times. For a daily production of 256 tons per day the technology based limits for BOD and TSS will be:

Parameter	Daily Maximum	Monthly Average
BOD5	5,836	3,200
TSS	5,248	2,560
pH	>5.0 and <9.0	

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit.

When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDegradation

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

A mixing zone study was conducted in February 1994, in accordance with WAC 173-201A-100. This study determined that the acute dilution ratio was 57 to 1 and the chronic dilution ratio was 140 to 1. With the closure of the pulping process and the large reduction in effluent flow Ecology requested that Georgia-Pacific West analyze the dilution based on the current conditions. An updated dilution analysis dated January 3, 2002 was received and evaluated and approved by Ecology. This study determined that the acute ratio is 89 to 1 and the chronic dilution ratio is 265 to 1.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to Bellingham Bay which is designated as a Class A receiving water in the vicinity of the outfall. Characteristic uses include the following:

water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Fecal Coliform	14 organisms/100 mL maximum geometric mean
Dissolved Oxygen	6 mg/L minimum
Temperature	16 degrees Celsius maximum or incremental increases above background
pH	7.0 to 8.5 standard units
Turbidity	less than 5 NTU above background
Toxics	No toxics in toxic amounts

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Pollutant concentrations in the proposed discharge exceed water quality criteria with technology-based controls which the Department has determined to be AKART. A mixing zone is authorized in accordance with the geometric configuration, flow restriction, and other restrictions for mixing zones in Chapter 173-201A WAC and are defined as follows:

The dilution factors of effluent to receiving water that occur within these zones have been determined at the critical condition by the use of EPA's PLUMES Model. The following dilution factors, from a dilution ratio study conducted in February 1994, were used in the existing permit:

	Acute	Chronic
Aquatic Life	57:1	140:1

With the closure of the pulping process at the mill there has been a significant decrease in the discharge flow (from ≈ 50 MGD to ≈ 10 MGD), therefore, Georgia-Pacific submitted revised dilution ratio study (dated December 12, 2001). The following dilution factors were determined as result of this study:

	Acute	Chronic
Aquatic Life	89:1	265:1

The existing dilution ratios were used when evaluating the affect of this discharge on the receiving water but the facility was assigned the most recent dilution ratios as a conservative approach.

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

The derivation of surface water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

The impacts of dissolved oxygen deficiency, temperature, pH, and other toxics were determined as shown below, using the dilution factors described above.

BOD₅--This discharge with technology-based limitations results in a small amount of BOD loading relative to the large amount of dilution occurring in the receiving water at critical conditions. Technology-based limitations will be protective of dissolved oxygen criteria in the receiving water.

Temperature--The impact of the discharge on the temperature of the receiving water was modeled by mixing analysis at the critical condition by $T_f = (T_e + 140T_{rw})/141$. Where T_f is the final temperature at the edge of dilution due to the influence of the effluent, T_e is the effluent temperature, and T_{rw} is the temperature of the receiving water before mixing. The receiving water temperature at the critical condition is 16°C and the effluent temperature is 32°C. The predicted resultant temperature at the boundary of the chronic mixing zone is 16.1°C as such incremental rise is 0.1 °C.

Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters.

pH--Because of the high buffering capacity of marine water, compliance with the technology-based limits of 5 to 9 will assure compliance with the Water Quality Standards for Surface Waters.

Turbidity--The impact of turbidity was evaluated based on the range of turbidity in the effluent and turbidity of the receiving water. Due to the large degree of dilution, it was determined that the turbidity criteria would not be violated outside the designated mixing zone.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

The only toxic, with Water Quality or Human Health Standards, that was determined to be present in the discharge was Zinc and that was at a concentration of 8 ppb.

Limited valid ambient background data was available. A determination of reasonable potential to exceed the standards, resulted in no reasonable potential for zinc.

Since the existing treatment system may have mercury contamination the proposed amended permit continues a monitoring requirement for mercury at the final outfall. A determination of reasonable potential using over 5 years of data resulted in no reasonable potential to exceed water quality standards. Technology based limits used in past and enforced at the chlorine production facility where mercury was used are no longer valid. The production of chlorine has permanently ceased, and the discharge of mercury has been apparently eliminated.

The limits and monitoring requirements for 2,3,7,8-TCDD, 2,3,7,8-TCDF in both the bleach plant effluent and the final effluent, and twelve chlorinated phenolics at the bleach plant effluent were removed from the permit because Georgia Pacific is no longer making or bleaching pulp.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Acute toxicity tests measure mortality as the significant response to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests are providing an indication of the potential lethal effect of the effluent to organisms in the receiving environment.

Chronic toxicity tests measure various sublethal toxic responses such as retarded growth or reduced reproduction. Chronic toxicity tests often involve either a complete life cycle test of an organism with an extremely short life cycle or a partial life cycle test on a critical stage of one of a test organism's life cycles. Organism survival is also measured in some chronic toxicity tests.

Accredited WET testing laboratories have the proper WET testing protocols, data requirements, and reporting format. Accredited laboratories are knowledgeable about WET testing and capable of calculating an NOEC, LC₅₀, EC₅₀, IC₂₅, etc. All accredited labs have been provided the most recent version of the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* which is referenced in the permit. Any Permittee interested in receiving a copy of this publication may call the Ecology Publications Distribution Center 360-407-7472 for a copy. Ecology recommends that Permittees send a copy of the acute or chronic toxicity sections(s) of their permits to their laboratory of choice.

An effluent characterization for acute and chronic toxicity was in the existing permit and was ongoing at the time of the preparation of this amendment. The WET characterization study was left intact in the permit with the exception that the interim acute salmonid and bivalve testing requirements were removed

No change was made in the WET requirements in the existing permit. The interim acute salmonid and chronic bivalve and sea urchin/sand dollar testing were removed from the permit because the requirement will have been completed by the issuance date of this permit.

HUMAN HEALTH

Washington’s water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). With the substantial decrease in flow and marked increase in the chronic dilution ratio it was determined that there are no human health effects.

SEDIMENT QUALITY

Georgia-Pacific has completed phase I of the sediment study requirement in the existing permit and it was removed from the permit. The phase II requirement was retained in the proposed permit.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100). This permittee has no discharge to ground and therefore no limitations are required. The waste water treatment lagoon is bounded on three sides by Bellingham Bay and has no potential to effect ground water.

COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED April 1, 2001

	BOD (lbs/day)		TSS (lbs/day)	
	<u>MAX</u>	<u>AVE/mon</u>	<u>MAX</u>	<u>AVE/mon</u>
CURRENT LIMITS	39,417	20,587	60,320	32,377

PROPOSED LIMITS 3,200 5,836 2,560 5,248

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S4. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to

require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

OUTFALL EVALUATION

Proposed permit condition S.6 requires the Permittee to conduct an outfall inspection and submit a report detailing the findings of that inspection. The purpose of the inspection is to determine the condition of the discharge pipe and diffusers and to evaluate the extent of sediment accumulations in the vicinity of the outfall.

TREATMENT SYSTEM OPERATING PLAN

In accordance with state and federal regulations, the Permittee is required to take all reasonable steps to properly operate and maintain the treatment system (40 CFR 122.41(e)) and WAC 173-220-150 (1)(g). An operation and maintenance manual is to be submitted as required by state regulation for the construction of wastewater treatment facilities (WAC 173-240-150). It has been determined that the implementation of the procedures in the Treatment System Operating Plan is a reasonable measure to ensure compliance with the terms and limitations in the permit.

The treatment efficiency study and engineering report requirement was removed from the existing permit because the existing aerated stabilization basin will need to be reduced in size to better accommodate the BOD loading. An engineering report will be required for the modification as required in Chapter 173-240 WAC.

SPENT PULPING LIQUOR BEST MANAGEMENT PRACTICE (BMP)

The spent liquor best management practice (BMP) requirements were removed from the permit because the sulfite operations have been shut down and they no longer apply.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed amended permit be issued for the remainder of the existing permit term.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to issue an amended permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department will publish a Public Notice of Draft (PNOD) on (date) in (name of publication) to inform the public that a draft amended permit and fact sheet are available for review.

Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the Ecology office listed below.

Written comments should be mailed to:

Merley McCall
Department of Ecology
Industrial Section
P.O. Box 47706
Olympia, WA 98504-7706

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 360-407-6929, or by writing to the address listed above.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for “all known, available, and reasonable methods of treatment”.

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--RESPONSE TO COMMENTS

The Department of Ecology Prepared a draft amended National Pollutant Discharge Elimination System (NPDES) Permit for the Georgia-Pacific West, Inc. tissue mill located in Bellingham Washington. The draft permit was placed on thirty day public notice on March 27, 2002. The public comment period was subsequently extended and ended May 10, 2002. A total of three written comments were received. Comments were received from:

Friends of Whatcom County
Nooksack Indian Tribe, Natural Resources Department
Georgia-Pacific West, Inc.

Comments received from Friends of Whatcom County

1. Comment:

First, it is not clear to us that this facility will, in fact, be meeting BAT and AKART requirements. It appears that excessive flows and mixing zone allowances are being used to qualify this facility without requiring upgrades to current technological standards. We do not consider the facility to have any "grandfathered" status that would prevent consideration of technology upgrades.

Response:

The Fact Sheet states: "The pertinent regulatory basis to establish numeric effluent limitations for this mill process are found in 40 CFR 430.120 Subpart L- (Tissue, Filter, Non-Woven, and Paperboard from Purchased Pulp Subcategory), of the Code of Federal Regulations." These are the revised effluent guidelines for the pulp and paper industry published April 15, 1998 by EPA in the Federal Register (98 FR 18503). These guidelines, known as the "Cluster Rule, replaced the effluent guidelines that were used to calculate the technology-based limitations in the mill's 1991 permit. The new effluent guidelines (Subpart E –Papergrade Sulfite Subcategory – specialty grade pulp segment) were also used to determine the effluent limits for the NPDES Permit issued on April 1, 2001 prior to the pulp mill closure. The Fact Sheet failed to mention that these effluent guidelines are the federal Best Available Technology economically achievable (BAT). The Department of Ecology policy is that these Federal BAT that are less than 5 years old, represent and satisfy Washington State AKART requirements.

2. Comment:

Even with the estimated flow, which we believe to be excessive relative to BAT standards, it appears the mixing zone will need to be adjusted upward. We believe technology exists that is reasonably available and would obviate this need.

Response:

A mixing zone re-evaluation was required in the Permit issued on April 1, 2001. With the closure of the pulp mil there was approximately a 75% reduction in flow from the facility and this resulted in an increase in the available dilution. There was also a substantial reduction in the conventional pollutants being discharged to the bay.

3. Comment:

The applicant's known history of illegal dumping, reporting violations and egregious polluting should not warrant such lenience. For instance, woodwaste leachate is supposedly disposed of in the Aerated Stabilization Basin. However, citizen watchdog NWCitizen.com recently published a photograph of a tank truck full of this leachate being discharged onto the ground into a storm drain discharging directly to Bellingham Bay. The photo showed a sea lion basking on a dock directly down gradient from this activity.

Response:

The wood waste leachate is discharged into a storm drain adjacent to the aerated stabilization basin (ASB), the facilities secondary treatment system, behind the Georgia Pacific warehouse. This storm drain collects storm water from the parking area and discharges directly to the ASB where it is treated prior to being discharged to the Bay.

4. Comment:

This lackadaisical attitude seems to extend to sampling and monitoring requirements as well. For instance, a priority pollutant scan is required only once during the six-year permit term, in spite of the fact that wood waste leachate is (supposedly) disposed of in the treatment system and could easily contain mercury or organochlorines such as dioxins, furans and biphenyls. The recently published GAO - 02-515 Draft Reassessment of Dioxins suggests that the permit should anticipate stricter regulation of these compounds. Remarkably, there is no mention of them in the permit, even though they are quite commonly associated with paper production.

Response:

Organochlorines such as dioxins and furans are associated with the production of bleached pulp and wood waste combustion, they are not associated with tissue production, where purchased pulp is converted into paper and tissue products. Biphenyls have not been an issue at tissue mills and were not detected in the priority pollutant scans both before and after the pulp mill closure. It was for that reason that the requirement for a priority pollutant scan was reduced to once each permit term. Mercury is of concern because of now closed chloroalkali plant and onsite contamination and possible contamination of sludge in the ASB. The permit has a requirement to monitor mercury in the final effluent during the first part of the 5 year (four remaining) permit term. The Department will continue to be concerned about mercury in the ASB sludge. Since the pulp mill closed the weekly monitoring has not detected mercury at a 0.2 µg/L detection level. The current ASB is much too large for the wastewater currently generated by Georgia Pacific. When the ASB is reconfigured additional mercury monitoring will be required during and for sometime following construction.

5. Comment:

Similarly, the acute toxicity testing requirements cover only the first year of the permit. The property contributing stormwater to the treatment system is known to be very toxic, including at least one illegal dump containing approximately 12 tons of mercury. It is now a stated objective of the property owner to seek a mixed-use development concept for the property. A range of activities associated with demolition, excavation and construction could create significant releases to the system through on-site deposition subject to storm water transport.

Response:

The permit requires Whole Effluent Toxicity (WET) characterization study during the first year of the permit term. The characterization study requires includes acute bioassay testing on two species every other month and chronic bioassay testing on three species quarterly during the first

year. If acute and/or chronic bioassay testing results fail to meet the requirements in Chapter 173-201A WAC then Georgia-Pacific will receive the acute and/or chronic limit specified in the permit and is required by the permit to conduct periodic monitoring during the remainder of the permit term. If the acute and/or chronic bioassay testing results from the characterization study meet the criteria in Chapter 173-201A WAC then the permit assigns no limit or monitoring requirements. In this case the permit requires Georgia-Pacific to conduct additional acute and chronic bioassays during the last year of the permit term.

Ecology assumed the commenter was referring to the Chemfix dump area near the old chloroalkali plant site when you refer to the "illegal dump" containing approximately 12 tons of mercury. The material at the Chemfix site was dumped there prior to the passage of the rules prohibiting the practice and therefore is not considered an "illegal dump." It is a contaminated site that is currently being managed under the Model Toxics Control Act (MTCA). It was capped with asphalt in the mid 80's and has ground water monitoring wells in place to evaluate movement of the mercury. The last sampling at the monitoring wells resulted in non-detect at 0.2 parts per billion. Ecology will soon be issuing a MTCA order requiring Georgia-Pacific to complete a Remedial Investigation Feasibility Study (RIFS). This feasibility study will include additional ground water and soil sampling in and around the Chemfix site. The study will also include additional leachate testing to determine what would make the mercury mobile. The RIFS will include the development of remediation options. The MTCA order will be issued after a public review process. The asphalt cap prevents storm water from washing any of the mercury from this site into the tissue plant wastewater system.

6. Comment:

Priority pollutant scans and acute toxicity testing should continue on a periodic basis throughout the term of the permit. The permit should include a protocol for grab and composite sampling and testing that will help discern the frequency, magnitude and circumstances of such "unintentional" discharges.

Response:

The manufacturing process currently used at Georgia-Pacific is not expected to generate the compounds and elements included in the priority pollutant scan and therefore it is sufficient to collect one sample during the remainder of the current permit term. Counting the requirements for sampling during the permit renewal application, that will make a total of three samples during this permit term. When the company changes the configuration of the aerated stabilization basin, additional priority pollutant analysis will be required to determine if contamination from the disturbed sludge in the basin are being re-entrained and discharged in the effluent.

7. Comment:

Also, the permit states that sample remainders from discharge conditions should be held "until noon", That is ambiguous at best. The retention period should be for a specific number of hours or days.

Response:

This condition is for the convenience of the Department of Ecology inspectors. All inspections are conducted un-announced, that is the Ecology inspector shows up at the front gate without notifying the company. Part of the Ecology inspection is to split the composite from the night before with the company. This provides a comparison of the analytical results between our

laboratory and theirs. Since companies frequently take their sample of the composite prior to 8 AM, the condition is included so the sample is held long enough for the Ecology inspector can get a portion for analysis. In order to clarify the condition the permit has been changed to require that the sample “shall be retained until noon each day”.

8. Comment:

We believe a mixing zone is inappropriate in the receiving waters. There is no evidence of any discussion regarding technology and methods that would make such provision unnecessary. Primary contact intensive activities occurring within the mixing zone include swimming, sail boarding and youth small boat sailing. All of these entail consistent accidental ingestion of the water. The recirculating current in the bay means low flushing could cause potential accumulation of pollutants varying with tidal cycles.

Response:

The Washington State water quality standards allow and we have authorized a mixing zone for this discharge, WAC 173-201A-100. The numeric water quality criteria may be exceeded within a mixing zone under the rationale that the small size of the mixing zone reduces the exposure period and therefore does not reduce the beneficial uses of the water body. The acute numeric criteria for the protection of aquatic life must be met at the boundary of the acute mixing zone. The chronic numeric criteria for the protection of aquatic life must be met at the boundary of the chronic mixing zone. The numeric criteria for the protection of human health must be met at the boundary of the chronic zone. The state water quality criteria would be protective of aquatic life, based on a 1-hour exposure for acute and a 4-day exposure for chronic, and the human health criteria are protective based on a 70-year exposure. The data indicates that Georgia-Pacific meets acute water quality criteria at the end of the pipe.

9. Comment:

There is a discrepancy in the toxic and chronic mixing ratios. The draft permit cites the previous ratios to be 57:1 and 140:1 for acute and chronic, respectively. However, new ratios disagree between the permit and the fact sheet, with acute ratios being listed as 86:1 or 89:1 respectively, while chronic ratios are shown as 13 1:1 or 265: 1, again respective to their document.

Response:

The commenter is correct the dilution zone in the permit is incorrect. The company conducted an updated dilution zone study in December 2001 to determine the current dilution with the existing diffuser and the new effluent flow. 89 to 1 and the chronic dilution ratio is 265 to 1. The permit has been changed to reflect the Fact Sheet statement about the approved mixing zone.

10. Comment:

The permit contemplates continued mercury discharges, presumably due to sediments resident in the treatment facility that measure as high as 9.7mg/kg Hg. Continued discharge of mercury is unacceptable, especially when it can be prevented. The contaminated sediments in the facility should be cleaned up.

Response:

The permit requires the continuation of mercury sampling during the first 18 months of the amended permit term, weekly during the first six months and monthly during the next year. During this last year since the closure of the pulping operations the mercury has been at non-detect at 0.2 µg per liter. The permit allows a reduction in frequency if it continues to remain at

non-detect during that time. Again, when the company changes the configuration of the aerated stabilization basin, additional mercury analysis will be required to determine if mercury contamination from the disturbed sludge in the basin are being re-entrained and discharged in the effluent.

11. Comment:

Bellingham Bay has taken a beating over the years, primarily at the hands of Georgia-Pacific. It is time to reverse the process and clean the mess up. Continued discharge of more than two and a half tons of suspended solids daily seems unreasonable and does not account for the thick hydric slurry of suspended solids already carpeting the bottom of the bay. Odors from this mess create a ubiquitous and unhealthy nuisance on Bellingham's shoreline during low tide. The Department of Ecology should not participate in this nuisance or condone continued pollution. Renewal of this permit should be an opportunity to apply technological advances that protect the environment. Please take advantage of it. Thank you.

Response:

The response to comment one (1) above states that the effluent limits in the permit for BOD and TSS are BAT. The following are the actual BOD and TSS results since July, 2001:

	FLOW AVE MGD	BOD lbs/day		TSS lbs/day	
		MONTHLY AVE	DAILY MAX	MONTHLY AVE	DAILY MAX
LIMIT		3200	5836	2560	5248
Jul-01	8.0	979	2426	393	3849
Aug-01	10.4	625	2200	351	1286
Sep-01	10.1	741	1040	276	568
Oct-01	10.3	488	869	250	643
Nov-01	8.9	333	524	194	357
Dec-01	7.9	217	361	188	513
Jan-02	7.6	236	374	180	332
Feb-02	7.6	307	417	190	751
Mar-02	8.1	289	522	224	745
Apr-02	7.2	293	518	290	1068

The actual BOD and TSS loading are substantially below the “BAT” limits in the permit. To date we do not have a full years data and the data for July, August, and September appears to still be influenced by the discontinued pulping residual in the waste treatment system. It is Ecology’s intention to reevaluate the appropriateness of the BAT limits during this permit term since the actual BOD and TSS loading is such a small fraction the limits. It will be necessary to gather several years data to evaluate the variability of the data.

Comments received from the Nooksack Indian Tribe, Natural Resources Department

12. Comment:

We have concerns about whether Bellingham Bay provides adequate dilution to completely remove the impacts of the discharge from this facility to the surrounding environment. This is of

particular concern given the extended history of discharge and accumulation in the waters and sediments of Bellingham Bay from this facility.

Bellingham Bay also provides dilution for the effluent from many other discharging facilities, including the Bellingham municipal sewage treatment plant at Post Point, the Nooksack River, and the industrial facilities at Cherry Point and Birch Bay. The Nooksack River is currently subject to the Detailed Implementation Plan constructed as part of the Total Maximum Daily Load response to high fecal coliform numbers. Fecal coliform consumes dissolved oxygen, contributing low oxygenated waters through it's estuary to Bellingham Bay. Bellingham Bay is currently 303(d) listed for fecal coliform, another direct factor in the reduction of oxygen availability to organisms living in the Bay. Sewage treatment plants at Post Point and Birch Bay also discharge high biologic and chemical oxygen demand waters to Bellingham Bay and the waters north of it (respectively).

The facilities in operation at Cherry Point (Intalco Aluminum, ARCO refinery and TOSCO refinery), and the Birch Bay sewage treatment plant discharge their waste streams along the shoreline north of Bellingham Bay. The prevailing long shore current along at this location is from north to south, transporting the discharges from these facilities in the direction of Bellingham Bay. In combination, the waters of Bellingham Bay provide dilution for significant facility discharges besides that from Georgia Pacific, that have not been considered in establishing the dilution factor proposed for the modified permit.

We believe that the levels of biologic oxygen demand, and the water temperatures being proposed for discharge to Bellingham Bay under this permit exceed conditions that are protective of the fisheries and shellfish resources of the Nooksack Indian Tribe. We recommend that the biologic oxygen demand levels and the water temperatures proposed under this permit should be recalculated taking into consideration the concurrent discharges and conditions in the near shore environment.

Response:

First, in response to the concerns about BOD and the impact on Bellingham Bay please see the response to question number 11 above. The actual BOD levels are well below the "BAT limits in the permit. In is important to note that the concentrations the actual BOD loadings were derived from concentrations that are approaching the detection limit of the test. A back calculation of the monthly average concentration is as follows:

	Flow <u>Average</u>	BOD lbs/day <u>Monthly Ave.</u>	BOD <u>ppm</u>
July-01	8.0	979	14.7
Aug-01	10.4	625	7.2
Sept-01	10.1	741	8.8
Oct-01	10.3	488	5.7
Nov-01	8.9	333	4.5
Dec-01	7.9	217	3.3
Jan-02	7.6	236	3.7
Feb-02	7.6	307	4.8
Mar-02	8.1	289	4.3

At this level the BOD impact on Bellingham Bay is negligible. BOD is not expected to be very high for the manufacturing process currently being used at Georgia-Pacific. As stated in the response to comment 11 it is Ecology's intention to reevaluate the appropriateness of the BAT limits during this permit term since the actual BOD loading is such a small fraction the limits.

Next, in response to the comment regarding coliform, our admittedly limited information regarding coliform in the final effluent indicates that it is in the range of 30 MPN/100 mls. The mill discharges its sanitary wastewater to the public treatment works. The current wastewater is very low in BOD and nutrients therefore re-growth in the treatment system is not expected. Bellingham Bay is listed for coliform but Georgia-Pacific is not expected to contribute to the problem.

Finally, with regards to temperature, Ecology does not have sufficient information on effluent temperature resulting from the current manufacturing process to evaluate temperature effects. Bellingham Bay is not listed on the 303(d) list as being impaired for temperature, but Ecology is interested in temperature effects, since this is a warm water discharge. Your recommendation that the water temperatures proposed under this permit should be recalculated taking into consideration the concurrent discharges and conditions in the near shore environment is a good suggestion. At this time Ecology has committed its resources for this kind of study to conducting TMDLs on impaired, 303(d) listed, waters. The following is the temperature information that has been collected on the final effluent from Georgia-Pacific to date using the current manufacturing process:

	Temp °C	
	<u>Average</u>	<u>Maximum</u>
Aug-01	29	31
Sept-01	28	29
Oct-01	22	26
Nov-01	17	18
Dec-01	12.9	14.4
Jan-02	13.1	14.8
Feb-02	12.9	14
Mar-02	12.6	14.4
Apr-02	16.5	18.5

The seasonal variation in temperature appears to be the influence of the temperature of the Lake Whatcom water, their raw water source. A temperature monitoring requirement has been included in the Permit to collect this information. An evaluation of the temperature increase at the edge of the acute and chronic mixing zones at worse case, 31°C effluent temperature – 15.2°C receiving water temperature, shows that the increase at the edge of the chronic mixing zone would be 0.06°C and the increase at the edge of the acute mixing zone would be 0.18°C. Considering this effect at the edge of the mixing zones, it is our opinion that the effect beyond the edge of the mixing would be negligible.

Comments form Georgia-Pacific West, Inc.

13. Comment:

Page 4, Summary of Scheduled Permit Report Submittals: Consider removing altogether the references to submittals marked “Deleted” from the summary table.

Response:

The deleted items have been removed from the summary table.

14. Comment:

S1.B – Sample Type: Consider allowing a 24-hour composite sample for mercury.

Response:

The requirement for a grab sample was to reduce the risk of contamination during collection of the sample. Since it appears the permittee is not concerned about contamination during the collection of the 24 hour composite the requested change has been made in the permit.

15. Comment:

S1.B – Note e/: In an effort to address all contingencies and to recognize data collected under this permit, consider rewording the first three sentences of this section to read as follows: “Monitor once per week. The level of detection shall be a maximum of 0.2 ug/L. If mercury is not detected at 0.2 ug/L detection level for 26 consecutive weeks, the monitoring frequency shall become monthly.”

Response:

The proposed sentence does flow better than the sentence in the permit and the meaning is the same, therefore, the three sentences were changed as suggested.

16. COMMENT:

S1.E – MIXING ZONE: THE DILUTION VALUES SHOULD BE CHANGED TO “89 TO 1 FOR THE ACUTE ZONE AND 265:1 FOR THE CHRONIC ZONE”.

Response:

This issue was addressed in response to comment number 9 above and the permit has been changed to reflect the Fact Sheet statement about the approved mixing zone.

17. COMMENT:

General Comment: Georgia-Pacific requests Ecology include permit shield language into the general conditions of this permit as allowed under the Clean Water Act (please reference Georgia-Pacific comments on Ecology’s draft NPDES permit for the Camas Mill).

Response:

Fort James, Camas LLC (Georgia-Pacific Camas mill) has requested that the following language be included in their permit.

“Compliance with this permit during its term constitutes compliance, for purposes of enforcement, with the Washington State Waste Discharge Act and the Federal Water

Pollution Control Act to the extent provided in 40 C.F.R. 122.5. This permit provides authorization and therefore a shield for the following pollutants resulting from facility processes, waste streams and operations that have been clearly identified in the permit application process when discharged from specified outfalls:

- 1. Pollutants specifically limited in the permit or pollutants which the permit, fact sheet, or administrative record explicitly identify as controlled through indicator parameters;*
- 2. Pollutants for which the permit authority has not established limits or other permit conditions, but which are specifically identified as present in facility discharges during the permit application process; and*
- 3. Pollutants not identified as present but which are constituents of waste streams, operations or processes that were clearly identified during the permit application process.*

Notwithstanding any pollutants that may be authorized pursuant to subparts 1 and 2 above, (an) this NPDES permit does not authorize the discharge of any pollutants associated with waste streams, operations, or processes which existed at the time of the permit application and which were not clearly identified during the application process.

The language proposed is EPA's interpretation of the "Permit as a shield" language in the CWA. This language grants an affirmative defense in any enforcement against a Permittee for violation of the States water quality standards if the procedural elements have been completed. Ecology agrees with the substance of this policy, however, Ecology will not include this policy as language in an NPDES permit. The "permit as a shield" has been firmly established through EPA policy and court rulings, but the shield is only applicable when the discharge conditions are fully disclosed. In other words, the permittee retains the burden of proof. Placing the suggested language in the permit shifts the burden of proof to Ecology.